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Telecommuting and job satisfaction : examining workaholism and work/life balance

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TELECOMMUTING AND JOB SATISFACTION: EXAMINING WORKAHOLISM AND WORK/LIFE BALANCE

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ABSTRACT

TELECOMMUTING AND JOB SATISFACTION: EXAMINING WORKAHOLISM AND WORK/LIFE BALANCE

By Kristi M. Arrington

Corporate America has seen a dramatic shift in its work dynamics over recent years, with more telecommuters today than ever before. Although the benefits of telecommuting have been glamorized by the popular press, there remains much to be known about the increasingly popular work arrangement. In this study, the author attempts to replicate a previous finding suggesting a curvilinear, inverted U-shaped relationship between the extent of telecommuting and job satisfaction, and also looks to gain a deeper understanding of telecommuting through an examination of work/life balance and workaholism. Using hierarchical multiple regression analyses on a sample of 85 professional-level employees, findings support the curvilinear link, uncover an interaction between work/life balance and workaholism accounting for significant variance in the relationship, and identify work/life balance as a moderator in the linear, though not the curvilinear, relationship. Implications of these findings are discussed and avenues for future research are presented.

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Introduction

Corporate America has seen a dramatic shift in work dynamics over recent years. Days of the traditional 9-5 work done from within a corporate office building are evanescing and being replaced by the virtual office, a phenomenon known as telecommuting. Today more than ever before, workers are using portable electronic tools to carry out work away from a conventional office setting, often without leaving the home. In order to maximize the outcome of this new era, organizations will need to stay abreast to this shift, and will need to be able to understand and grasp its intricacies. To do so will require an adaptation of research efforts, one that moves away from traditional workplace issues to the empirical assessment of the present and future. The present study seeks to do just this, first in an examination of the relationship between the extent of telecommuting and job satisfaction. Next, we assess the moderating role that work/life balance plays in the telecommuting - job satisfaction relationship, and further how workaholism plays into the relationship by nature of its impact on work/life balance, an area that has not been explored in previous research. Through empirical assessment, this study intends partial replication of previous research which identified a curvilinear, inverted relationship between the extent of telecommuting and job satisfaction. In addition, the current study is one of the first of its kind in its examination of how third variables exist and interact to impact this relationship. This research also looks to reconcile inconsistencies in the telecommuting research, by exploring areas of equivocation to date. By examining such relationships, the present study intends to gain a more comprehensive understanding of the virtual workplace, an increasingly popular

work arrangement (Hill, Miller, Weiner, & Colihan, 1998) which will be important to organizations and employees alike, as we continue to move towards a more virtual society. The next several paragraphs of the introduction will be organized as follows: (i) introduction and high level overview of telecommuting, (ii) the relationship between telecommuting and job satisfaction (hypothesis 1), (iii) overview of work/life balance, (iv) the relationship between the extent of telecommuting and job satisfaction as moderated by work/life balance (hypothesis 2), (v) introduction and overview of workaholism, (vi) presentation of the moderating role of worker type in the relationship between extent of telecommuting and work/life balance (hypothesis 3), and (vii) the interaction between worker type and work/life balance in accounting for variance in job satisfaction, and examination of a three way interaction between extent of telecommuting, workaholism, and work/life balance moderating job satisfaction (hypotheses 4 and 5).

Telecommuting

Previous research has proven it difficult to delineate a universally agreed upon and comprehensive definition of telecommuting. This is likely a result of the wide variety of tasks that can now be carried out remotely and the sheer number of ways in which accomplishment of these tasks can be achieved (Harpaz, 2002). Some have defined telecommuting as "whenever an employee is paid for work done at an alternative worksite and total commuting time is thereby reduced" (Gibson, Blackwell, Dominicis, & Demerath, 2002, p. 76). Others consider telecommuting to be working wherever is needed to in order to satisfy client needs (Gibson et al., 2002), and still there are other

definitions of telecommuting incorporating self-employed, formal or informal agreements, and percentage of time spent working at alternative worksites. While many operationalizations of telecommuting have been presented, emphasis on the utilization of electronic communications from home or another location as the primary channel of contact between the paid work carried out and the employing organization, its members, and customers has been a consistent feature noted across literature to date (Cooper, 1996; Gainey, Kelley, & Hill, 1999). The present research defines telecommuting as working from home on a regular basis and does not include supplemental or additional work taken home at night (Virick, 2002). In other words, bringing work home from the office to complete on an as needed basis is not sufficient to meet the definition of telecommuting utilized by the present study. By adopting a conservative definition of telecommuting, the intent is to reduce the contingencies associated with the plethora of remote tasks often incorporated into the definition, and to understand telecommuting in its most basic form. "Telework", a term used interchangeably with telecommuting, has been more simply defined as "the broad term for doing one's job away from the office via telecommunications equipment" (Hill et al., 1998, p. 668). The terms telework and telecommuting will be used interchangeably throughout the present study.

The first telecommuter on record was a Boston bank president who, in 1877, installed a phone line between his bank and home. Although telework was foreseen as a viable organizational possibility as early as 1950 (Hill et al., 1998), telecommuting itself was not formally introduced until the 1970's when companies considered telework a method of protection from fuel shortages during the OPEC oil crisis (Tolbert & Simons,

1994 as cited in Hill et al., 1998). Since its advent, interest in telework as an alternative to the traditional office setting for organizations has continued to grow (Siha & Monroe, 2006). Accompanying this interest has been a dramatic increase in the number of American teleworkers (Hill et al., 1998). Though an exact number of telecommuters has been difficult to quantify due to the lack of a universal definition (Tremblay, 2002), research estimated that the number of teleworkers increased more than tenfold in a decade (Shellenbarger, 1997) to roughly 22% of the American workforce in 2001 (Gibson et al., 2002). One study (US Census Bureau, 2004) reported that nearly 4.2 million people worked at home in 2000, up from 3.4 million in 1990. This 23 percent increase in home-based workers age 16 and older was double the growth in the overall work force during the decade. With recent estimates of more than 28 million telecommuters in the United States, growing at approxamitely 11% per year, telecommuting continues to become an omnipresent work arrangement (Golden, Veiga, & Simsek, 2006).

While working from home itself is not a new phenomenon (Harpaz, 2002), the real change in recent years has been the essence of individuals working from home but within the structure of an organizational framework. In other words, individuals today are inhabiting functional organizational roles, carrying out organizational tasks and responsibilities, and maintaining continuous communications with other organizational members, customers, and stakeholders from remote settings outside of the traditional corporate facility. These interactions are existing primarily through modern technological communication channels (Harpaz, 2002).

Research has credited the development and expansion of on-line technology as a main catalyst accelerating the telecommuting phenomenon (Harpaz, 2002). As of the year 2003, an estimated 61.8 % of all households in the United States had home computers, and 54.7% of American households had internet access (Day, Janus, & Davis, 2005), providing an opportunity to facilitate such a remarkable shift in work dynamics. This expansion, combined with a drastic evolution across the domain of computer technology itself, has made telecommuting conveniently accessible, and relatively inexpensive (Belanger, 1999).

Despite the rapid growth of telecommuting over recent years, there has been a substantial lack of empirical research done to systematically investigate the increasingly popular work arrangement (Golden & Veiga, 2005). Potential benefits of telecommuting at the individual, organizational, and societal levels have been glamorized by the popular press. However, research that has been conducted to date has been met with equivocation in findings and has been scrutinized for lacking rigor (Golden & Veiga, 2005). Before any conclusions can be made, more systematic research needs to be done on the myriad of aspects related to the telecommuting phenomenon (Golden, 2006). While organizational and societal level factors have been identified as valuable and applicable areas of further study (Feldman & Gainey, 1997), for purposes of brevity and comprehensiveness, the present research will focus on ramifications of telecommuting at the individual level.

Job Satisfaction

Of the many benefits of telecommuting posited by the popular press, the most often cited is increased job satisfaction (Golden & Veiga, 2005). The evidence to support this claim however, too is equivocal. Job satisfaction is the extent to which employees are satisfied or dissatisfied with their jobs (Spector, 1997), and has been found to be predictive of job tenure, counterproductive behavior, and withdrawal (Grandey, Cordeiro, & Crouter, 2005). Given the paramount importance of job satisfaction to organizations and resulting implications on job design, it is critical to gain an understanding of the predictors and hindrances of the construct. After reviewing telecommuting literature, Bailey and Kurland (2002) concluded the empirical evidence linking telecommuting to job satisfaction to be unclear.

Some researchers have argued that telecommuting has a positive impact on job satisfaction, primarily because it results in greater ability to satisfy personal needs by adjusting work tasks (Golden & Veiga, 2005), allowing individuals to better meet non-work and family related responsibilities. These findings are consistent with the realm of literature suggesting a positive relationship between work/life balance and job satisfaction (Aziz & Zickar, 2006). Similarly, Manochehri & Pinkerton (2003) reported increased job satisfaction resulting from balancing work and family, autonomy, increased social life, flexible hours, less distractions, non-involvement in office politics, and improved time management experienced by telecommuters. Conversely, other lines of research (Cooper & Kurland, 2002) have contended that decreased social interaction and relations with coworkers resulting from telecommuting, particularly when coupled with

increased feelings of social isolation result in lower levels of job satisfaction. Other disadvantages such as lack of professional support, impeded career advancement, an "out of sight out of mind" mentality, and of particular interest to the current study, an inability to separate work and home (Harpaz, 2002) have been noted as negatively impacting the job satisfaction of telecommuters. Important to note here is that while there have been studies citing a positive impact on balancing work and family resulting from telecommuting, others have suggested that telecommuting can lead to an inability to separate the two spheres. These contradictory findings warrant further research on this relationship in particular, and will be an area discussed in depth later in this paper.

While previous research has consistently identified a link between telecommuting and job satisfaction, the nature and direction of the relationship has been variable. Perhaps these inconsistencies are not inconsistencies at all, but are indicative of a complex relationship, one that is variable by nature and contingent on a number of factors. These equivocations in findings suggest the possibility of additional factors and relationships, still unaccounted for, playing integral roles in the telecommuting/job satisfaction relationship. However, likely due to the novelty of the subject area and its youthfulness in the literature, little scholarly attention has been given to exploring this possibility, or to the identification and understanding of how third variables may influence the telecommuting/job satisfaction relationship.

In research attempting to reconcile such inconsistencies, Golden and Veiga (2005) demonstrated a curvilinear, inverted U-shaped relationship between the extent of telecommuting and job satisfaction, moderated by task interdependence and job

discretion. More specifically, results suggested an increase in job satisfaction experienced by telecommuters at relatively low levels of telecommuting, tapering off and beginning to decrease at more extensive levels of telecommuting. The rationale presented for this finding was that at relatively low levels of telecommuting, when more time is spent in the office, individuals are still able to reap the benefits of social interaction provided by face-to-face relationships (Golden & Veiga, 2005) and to begin to satisfy both individual and organizational needs that enhance job satisfaction. In contrast, at extensive levels of telecommuting, the loss of face time and resulting social isolation begins to serve as a gatekeeper to job satisfaction. Further, it was found that task interdependence, the degree to which organizational members must rely on one another to effectively perform job tasks (Golden & Veiga, 2005) moderated this relationship in such a way that telecommuters with high task interdependence experienced a slower rise in job satisfaction than those with lower levels of interdependence, with the most profound impact at the highest levels of telecommuting. Results of this study also suggested that job discretion, defined as the extent to which individuals have control over how a task is to be implemented (Langfred, 2000) moderated the curvilinear relationship where telecommuters with high discretion experienced higher levels of job satisfaction when compared with those with low levels of discretion, most pronounced at fairly low levels of telecommuting. These findings offer support to the notion of third variables playing integral, contingent roles in the telecommuting – job satisfaction relationship. However, little more research exists examining the impact of third variables on the relationship between telecommuting and job satisfaction (see Golden, 2006 for

exception). Further, little other research has been done to validate the existence of the inverted U-shaped relationship between the extent of telecommuting and job satisfaction identified by Golden & Veiga. For a more thorough, consistent, and comprehensive understanding of the consequences and complexities of telecommuting, it will be important for research to further identify such factors and to address these relationships. The present study seeks to do just this, by testing Golden and Veiga's notion of an inverted U-shaped relationship between the extent of telecommuting and job satisfaction.

While Golden and Veiga (2005) assessed the extent of telecommuting in average number of hours per week consistently spent away from the office working as a telecommuter and the proportion of an average workweek spent telecommuting, the present research looks at extent of telecommuting as the number of days per week spent working from home on a regular basis. It is not expected that this variation in assessment will significantly impact findings. Rather, by varying the operationalization of the extent of telecommuting, the present study seeks to validate the relationship identified by Golden and Veiga and increase generalizibility of the findings. As such, the following prediction is made:

> *Hypothesis 1*: A curvilinear, inverted U-shaped relationship exists between the extent of telecommuting, operationalized as the number of days an individual works from home a week, and job satisfaction.

By addressing this area, the intent is shed light on a popularly debated topic, and by partially replicating their work, to validate the findings of Golden and Veiga (2005), in

an attempt to progress towards a more comprehensive understanding the telecommuting - job satisfaction relationship.

Because of the complexity of the telecommuting – job satisfaction relationship, the present study will also be conducting an in-depth examination of work/life balance, a variable that has consistently been linked to job satisfaction (Aziz & Zickar, 2006) but has sparked a debate among telecommuting researchers. Finally, we will assess the role played by workaholism by nature of its relationship with work/life balance, predicting resulting job satisfaction across different levels of telecommuting.

Work/Life Balance

An implicit assumption lending support to the virtual work initiative has been that virtual work may decrease job stress by increasing flexibility and thus reducing work-nonwork interference and overload (Raghuram & Wiesenfeld, 2004). However, scholarly research on the influence of the virtual office on work/life balance is both scarce (Hill et al., 1998) and inconsistent (Golden, Veiga, & Simsek, 2006). Work/life balance refers to the ability of individuals, regardless of age or gender, to find a rhythm that will allow them to combine their work with their non-work responsibilities, activities and aspirations (Hughes & Bozionelos, 2007).

While work/life balance is related to work-family conflict, it is by definition a broader, all-encompassing notion (Aziz & Zickar, 2006). It is important to note that much of what has been done in telecommuting research to date has ignored the bidirectional nature of work-family conflict (i.e., work-to-family versus family-to-work), by focusing on its unidirectional forms, and subsequently to a lesser extent on overall

work-life balance (Golden, Veiga, & Simsek, 2006). By focusing on overall work/life balance, the current study seeks to contribute to a broader understanding of telecommuting's influence on the work/life interface.

Research has suggested that family and work related factors, when interfering with each other lead to significantly lower job satisfaction (Samad, 2006). Expanding on this notion would insinuate lower levels of work/life balance to be marked by lower levels of job satisfaction. In research conducted by Hughes and Bozionelow (2007) to examine work/life balance as a source of job dissatisfaction and withdraw attitudes, a lack of work/life balance was found to be the predominant factor of concern and dissatisfaction among participants. In telecommuting research, family disruption has demonstrated an inverse relationship with satisfaction with a telecommuting job (Hartman, Stoner & Arora, 1992). In other words, higher levels of work and family interference are associated with lower levels of overall job satisfaction.

In work done to examine the relationship between virtual work and work/life balance by Hill et al. (1998), qualitative and quantitative analyses within the study itself were inherently conflicting. In their research, the perceived influence of the virtual office on work/life balance was reported both favorably and unfavorably across write-in responses, but the mobility associated with telework was not found to be significantly related to work/life balance in either direction when subject to multivariate analyses. The differences found within the work done by Hill et al. have been characteristic of findings across the telecommuting realm of research as a whole, particularly in the context of work/life balance. More specifically, when addressing the relationship between

telecommuting and work/life balance, a critical determinant of job satisfaction, research findings to date have been variable.

Results from a study conducted by Raghuram and Wiesenfeld (2004) reported the positive relationship between work interference in non-work and job stress to be stronger for those telecommuting more extensively than those telecommuting at less extensive levels. In other words, these results suggest that when interference does exist, the greatest increase in job stress occurs at high levels of telecommuting. This finding makes sense when considering that in telework, the work and non-work domains are in essence co-locating.

For telecommuters, the distinction between work and life can not only pose more of a challenge by nature of the work environment alone, but this interference or lack there of may also play a more critical role in determining overall job satisfaction. It is expected that this would be particularly true at more extensive levels of telecommuting, where the facets of work and home are in constant interaction. Such reasoning leads to the expectation that differences in job satisfaction between those with high versus those with low levels of work/life balance will be the most strongly pronounced at extensive levels of telecommuting. Formally stated,

> *Hypothesis 2*: Work/life balance moderates the curvilinear relationship between the extent of telecommuting and job satisfaction. More specifically, for telecommuters with high work/life balance, the increase in job satisfaction associated with low levels of telecommuting will be faster, the decline in job satisfaction associated with extensive levels of telecommuting will be slower, and

the difference in satisfaction will be most pronounced at extensive levels of telecommuting.

Considering that telework entails doing paid work from inside the home, often in the presence of family members or roommates, an understanding of the influence of this form of work on work/life balance is critical. Still, there has been little research done examining how greater flexibility in the timing and location of work really influences work/life balance and what research does exist is inconclusive (Golden, Veiga, & Simsek, 2006). It is important to note that in presenting previous findings as inconsistent or inconclusive, the intent of this research is by no means to discredit existing scholarly work. Rather, it reintroduces the idea that third variables play critical roles in the nature and direction of the complex relationships being examined. Hence, the present study looks to build on existing research, instrumental in paving the way to a more comprehensive understanding of a complex phenomenon. The following paragraphs discuss each side of the telecommuting – work/life balance literature in more detail.

Benefits. The "virtual office" has been documented as an effective means of concurrently reducing corporate expenses while increasing productivity, morale, and work/life balance (Hill et al., 1998). Popular press has portrayed telecommuting as something of a panacea for work/life balance (Shellenbarger, 1997). Some scholars have suggested that the flexibility associated with telework is the solution to balancing work and home responsibilities (Jenson, 1994), in that working at home allows more efficient planning of leisure time and a balancing of other tasks to fulfill in the domains of family and community (Harpaz, 2002). Additionally, it has been posited that due to an

increased presence at home, telecommuters are better able to meet family demands and more easily carry out face-to-face interactions with family members by avoiding electronic media that constrain such interactions (Daft & Lengel, 1986). In this sense, work/family relationships are likely to improve through decreased work-family conflict. Taking this notion one step further, Golden (2006) demonstrated a partial mediation by work-family conflict in the relationship between the extent of telecommuting and job satisfaction, implying a pronounced drop in work-family life interference at extensive levels of telecommuting. Such findings lend support to the notion of a positive relationship between telecommuting and work/life balance. However, in contrast to increased work/life balance, others see the virtual office as having a more detrimental effect, in its potential to blur the boundaries between work and home life (Hill et al., 1998).

Drawbacks. A lack of boundaries or partitioning between the work and home domains can be an impending problem for telecommuters. As such, a major concern for many telecommuters is the potential for work and family to conflict when work is done in the home (Crandall & Gao, 2005). There have been contentions (Hill, 1996) that rather than enhancing family relationships, the virtual office can be "a cyberspace sweatshop" (p. 294), which blurs boundaries between work and home life. Olson and Primps (1984) found some telecommuters to exhibit characteristics of workaholism, a variable associated with decreased work/life balance (Aziz & Zickar, 2006), due to this inability to separate work and personal life.

This remarkable contrast in findings warrants further exploration of the relationship between telecommuting, and more specifically the extent of telecommuting and work/life balance. Coming back to the notion that some telecommuters exhibit characteristics of workaholism due in an inability to separate work and personal life (Olson & Primps, 1984), it becomes possible that workaholism, either preexisting or enhanced by the nature of telecommuting, plays a role in the telecommuting- work/life balance relationship, and subsequently on the telecommuting – job satisfaction relationship by nature of its relationship with work/life balance. The following paragraphs discuss workaholism in greater detail.

Workaholism

Workhaholism is characterized by an incessant captivation by work, felt by individuals who find it extremely problematic to release themselves from work, even when given the opportunity to do so (Porter, 2001). Although the term workaholism has become relatively commonplace in society since it was coined in 1971 (Oates, 1971), empirical research on the construct is still in its early stages. It is however expected to grow as interest in the subject reflected in the popular media remains high (Burke, 2004), and the construct has proven to be important to the organizational sciences (Aziz & Zickar, 2006). This can likely be attributed to increased work hours, technological advances resulting in the blending of work and non-work activities, and with the number of negative outcomes that have been associated with workaholism to date (Piotrowski & Vodanovich, 2006).

While research on workaholism has increased in recent years, there has been some skepticism surrounding the operationalization and measurement of the construct. This study will be employing an adapted version of the definition put forward by Spence and Robbins (1992), as theirs was the first academic/research definition and one described in enough detail to assess reliability and validity issues, unlike most of the others (Burke, 2000b). Further, from a conceptual perspective, contrary to nearly all other typologies, the Spence and Robbins proposed dimensions are not *ad hoc*, but reflect the most common dimensions used in the workaholism literature (Buelens & Poelmans, 2004). Spence and Robbins define the workaholic as a person who, in comparison to others, is "highly work involved, feels compelled or driven to work because of inner pressures, and is low in enjoyment of work" (p.162).

The Spence and Robbins (1992) measure, the Workaholism Battery (WorkBAT), is widely used in workaholism research (McMillan, Brady, O'Driscoll, & Marsh, 2002). The original version of the WorkBAT operationalizes workaholism using a 'workaholic triad' consisting of three distinct dimensions of attitudinal properties: drive to work, work enjoyment, and work involvement, resulting in six worker profiles on the basis of either high or low scores on the three scales. Research done by McMillan et. al to validate this scale, however, found little support for the construct validity of using WorkBAT in its original format. In a comprehensive review, Scott, Moore, & Miceli (1997) contended that workaholism is a pattern of behavior, where as Work Involvement, Spence and Robbins' third dimension of workaholism is an attitude and thus an individual may be highly work involved yet not engage in workaholic behavior. This is consistent with

previous suggestions that the measure would be substantially improved by eliminating the Work Involvement scale and shortening the Enjoyment and Drive Scales (Kanai, Wakabayashi, & Fling, 1996). Demonstrating that the work involvement component of the original scale had low convergent validity, an unreliable factor structure, and low reliability led to the development of a 2 x 2 model, adapted from the original Spence and Robbins classifications (Russo & Waters, 2006). This model contains four worker types: workaholics, enthusiastic workaholics, relaxed workers, and uninvolved workers (see Table 1). The present research will employ the 2x2 model, and as such will focus its attention on two dimensions of workaholism, drive and enjoyment. In this sense, a workaholic will exhibit higher than average drive and lower than average enjoyment. The three other worker types will be alluded to throughout the present study, however, the main focus of this research is on the workaholic itself. The term non-workaholic will be used throughout this paper to represent the three worker types who do not fit the high drive/low enjoyment criteria of the true workaholic.

Drive. Drive is characterized by an internal, addictive pressure to work, emphasized as a compulsive work addiction (Buelens & Poelmans, 2004). Not answering these addictive pressures has shown to result in feelings of guilt about not working. This component of workaholism involves putting forth significant effort, working hard, and thinking about work even when an individual tries not to (Virick & Baruch, 2007). Drive has been used consistently across studies of workaholism and has traditionally been associated with more negative outcomes (McMillan et al., 2002).

Enjoyment. Enjoyment examines a level of pleasure derived from work, reflected in the sense that individuals may have a difficult time stopping work because it either does not seem like work, or they become so engaged in work that they lose track of time. (Virick & Baruch, 2007). It is important to note that the Spence and Robbins (1992) definition posits that workaholism is characterized by lower than average enjoyment. This does not necessarily insinuate that workaholics experience a certain level of overall satisfaction or dissatisfaction with their jobs, rather it reduces the possibility that an individual is classified a workaholic because he or she enjoys the work so much that it is difficult to detach from either in time spent or spirit.

Each of the constituent elements of workaholism have been examined in isolation by previous research. For example, when treated independently, the enjoyment dimension has been associated with more positive outcomes, where workaholics simply represent an extreme case of work commitment (Buelens & Poelmans, 2004). However, univariate findings, while useful for validation, fail to capture the syndrome nature of workaholism. In order to do this, it is necessary to investigate the dimensions concurrently (Aziz & Zickar, 2006). This being said, consistent with previous research, it is expected that drive and enjoyment, when treated independently will differ in their relationships with other variables. As such, each the two dimensions will be examined separately in subsequent analyses for purposes of validation. However, the main focus of this research will be on workaholism as a syndrome, and more specifically on the workaholic profile itself, characterized by high drive and low enjoyment.

A general consensus exists that workaholism is a stable individual difference characteristic. There is also a level of agreement that workaholism is a central concept in understanding relationships of workplace experiences, typically concerning a variety of work outcomes including satisfaction and extra work satisfactions (Burke, 2004). Much of the existing research done to examine the relationship between workaholism and job satisfaction has demonstrated a negative relation between the two (Aziz & Zickar, 2006). In other words, higher levels of workaholism have typically been associated with lower levels of job satisfaction. Of particular interest to the current study, workaholism has empirically demonstrated to adversely affect work/life balance by resulting in a higher degree of work interference in personal life (Aziz & Zickar, 2006). Taking into account that telecommuters do paid work from inside the home, it is particularly important understand how workaholism impacts the work/life balance of these individuals.

Work/life balance. Previous research has consistently supported the notion that workaholics experience lower levels of psychological well being and higher levels of stress than non-workaholic individuals, regardless of the way that workaholism is operationalized (Russo & Waters, 2006). Commonly portrayed as experiencing marital problems, problematic close relationships, and isolation from family and friends, impaired interpersonal non-work relationships have been linked to workaholism across a number of research studies (Piotrowski & Vodanovich, 2006). Consistent with this notion, Burke (2000a) found a negative relationship between workaholism and extrawork satisfactions, including satisfaction with family, friends, and community.

When considering these findings, it would be expected that workaholism would have similar effects across employment scenarios, telecommuting notwithstanding, and that these relationships would have implications on work/life balance and resulting job satisfaction. The present study seeks to further understand this possibility by methodologically assessing the impact of workaholism on work/life balance in the realm of telecommuting.

Telecommuting. It has been suggested that workaholism is likely to make an independent contribution to satisfaction and well-being of organizational members (Burke, 2004). Research has also posited that blanket policies such as flexible scheduling, designed to promote work/life balance, are unlikely to be effective for all worker types (Russo & Waters, 2006). It is possible that some telecommuting individuals do not utilize any compensatory benefit of flexibility during normal working hours and extend hours at home after the regular business day is over (Hill, Hawkins & Miller, 1996). Without having to physically leave the office, these individuals may actually end up working longer hours than those in traditional office settings, and this can spill over into and take time away from non-work activities. When considering the inability to separate from work either in mind or in body that is characteristic of workaholics, it becomes possible that working out of the home may only perpetuate the problem and hinder work/life balance. This would be especially true at more extensive levels of telecommuting, where work and home life are inextricably linked. In contrast, enthusiastic workaholics for example, primarily driven to work by enjoyment rather than compulsion, may take advantage of the flexibility associated with telecommuting,

increasing work/life balance (Russo & Waters, 2006). In other words, through telecommuting, these individuals are able to ensure that work does not impede in their lives to the point that diminished satisfaction in the work and family domains is experienced. In addition, despite the fact that uninvolved and relaxed workers may experience higher levels of work/life balance to begin with, the autonomy and flexibility associated with telecommuting may further increase work/life balance due to an increased ability to better balance the two domains (Russo & Waters, 2006), though this increase is likely to a lesser extent than would be expected for enthusiastic workaholics.

Coming back to differences in findings across previous research relative to the relationship between the extent of telecommuting and work/life balance, it becomes possible that the nature and direction of the relationship itself depends to some extent on workaholism. In other words, perhaps while more extensive levels of telecommuting can actually increase work/life balance for some, these individuals are those able to mindfully make the distinction between the two spheres and who effectively allocate time for both work and non-work domains. However, those individuals exhibiting the inability to separate themselves from work may not benefit from telework arrangements in the same way, because they are unable to or choose not to take time for non-work related activities. Formally stated,

> *Hypothesis 3*: Worker type moderates the relationship between extent of telecommuting and work/life balance such that there will be a pronounced drop in work/life balance at extensive levels of telecommuting for workaholics and not for non-workaholics.

If workaholism is theoretically negatively related to work/life balance (Aziz & Zickar, 2006), and work/life balance is positively related to job satisfaction (Aziz & Zickar), it would be expected that telecommuting workaholics will have lower levels of job satisfaction than the other worker types by nature of the negative relationship between workaholism and work/life balance. Hence, it is expected that

Hypothesis 4: Worker type and work/life balance interact to account for a significant amount of variance in job satisfaction.

Hypothesis 5: A three way interaction is hypothesized where worker type and work/life balance moderate the relationship between the extent of telecommuting and job satisfaction. Worker type and work/life balance interact with extent of telecommuting to moderate the telecommuting/job satisfaction relationship.

From here, it becomes possible that telecommuting workaholics represent the line of literature suggesting a blur between work and life (Hill et al. 1998), leading to decreased work/life balance, subsequently lowering job satisfaction. The present research empirically addresses these areas and in doing so looks to add the existing telecommuting literature, and further, to set the groundwork for future research in the area.

Summary of Hypotheses

The following is a summary of the hypotheses proposed by this research..

Hypothesis 1: A curvilinear, inverted U-shaped relationship exists between the extent of telecommuting, operationalized as the number of days an individual works from home a week, and job satisfaction.

Hypothesis 2: Work/life balance moderates the curvilinear relationship between the extent of telecommuting and job satisfaction. More specifically, for telecommuters with high work/life balance, the increase in job satisfaction associated with low levels of telecommuting will be faster, the decline in job satisfaction associated with extensive levels of telecommuting will be slower, and the difference in satisfaction will be most pronounced at extensive levels of telecommuting.

Hypothesis 3: Worker type moderates the relationship between extent of telecommuting and work/life balance such that there will be a pronounced drop in work/life balance at extensive levels of telecommuting for workaholics and not for non-workaholics.

Hypothesis 4: Worker type and work/life balance interact to account for a significant amount of variance in job satisfaction.

Hypothesis 5: A three way interaction is hypothesized where worker type and work/life balance moderate the relationship between the extent of telecommuting and job satisfaction. Worker type and work/life balance interact with extent of telecommuting to moderate the telecommuting/job satisfaction relationship.

Method

Participants and Procedures

The data used in this research was extracted, with consent, as a subset from a larger archival data base. The information in the dataset was collected from a leading global telecommunications organization, based in the Southwest United States who agreed to participate in the original study. Criteria used in selecting this organization included firm size, firm location, and interest in research participation. First, the firm is highly successful, with major facilities and offices across North America, and with leading edge products in every sector of the telecommunications industry. In 2001, the number of individuals employed by the organization in the United States was over 10,000. Further contributing to the selection of this particular organization was an interest in the original study, generating cooperation from the organization in survey delivery. Use of a single company was deemed sufficient for the study to control for organizational differences in telecommuting practices (Golden, Veiga, & Simsek, 2006), and based on the potentially large number of employees targeted for the survey.

Data collection for the original study was done in conjunction with the Corporate Employee Initiatives Department of the participating organization. Information was gathered using a web-based survey installed on the organization's internal intranet system, accessible to all exempt employees of the company, numbering approximately 4,000. Use of a web-based survey was selected rather than a paper-and-pencil method of data collection in an effort to be more aligned with the company's corporate culture. To prevent unauthorized access to the survey and to enable matching of responses to archival

data for purposes of the original study, respondents were required to enter employee identification numbers in order to access the survey. Respondents were able to return to earlier sections of the survey to make changes while completing the survey and prior to submission, but did not have the ability to complete, save, and send part of the survey, in order to return the survey at a later time.

Two weeks prior to launching the survey, announcements were made within the organization using various communication media including a weekly newsletter, intranet home page announcements, bulletin board announcements, news flashes, and e-mails. Participation in the survey was voluntary, and incentives were utilized to encourage participation and an adequate response rate. Six individuals were selected from among the respondents to receive prizes sponsored by the organization itself. The survey was maintained on the main company website for two weeks, and on the Human Resources website for a period of three weeks. Demographic data for participants was obtained using archival data provided by the organization, matched to databases maintained by the Human Resources Department within the sampled organization.

Responses to the survey were received from 575 of the 4,400 exempt employees in the organization, a response rate of 13%. While this may appear to be a lower than preferred response rate, it was a fairly typical response rate for the particular organization. Of the 575 individuals who responded, 85 identified as telecommuters. This percentage was deemed representative of the organization as a whole. Participants ranged from 26 – 67 years of age, with a mean age of 41.5 years ($SD = 9.15$). Seventy-five percent of the participants were male, and 78% of the 85 telecommuters were

married at the time of data collection. A total of 73% of participants surveyed had one or more children.

Measures

The data used in this study were collected via the web-based employee survey. The variables assessed in the present research are discussed in the following paragraphs. The measures utilized for the constructs have been employed in previous research and have demonstrated to have sound psychometric properties. Of these, some have been adapted or shortened.

Telecommuting. This research defines telecommuting as working from home on a regular basis. It does not include supplemental or additional work taken home at night. In order to distinguish telecommuters from non-telecommuters, participants were asked to respond yes or no to the question "Do you telecommute?". Responses were coded such that 0 = no and 1 = yes.

Extent of telecommuting. To assess the extent of telecommuting, participants were asked to report the average number of days a week spent working from home. Responses were forced choice, ranging from 1 (less than once a week) to 6 (five days a week).

Job satisfaction. The three-item scale of overall job satisfaction contained in the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979) was used to assess job satisfaction. The measure, which assesses organizational member's overall affective responses to his/her job (Golden, 2006) uses a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scale is

widely used in a variety of research settings and has demonstrated adequate internal consistency (Golden & Veiga, 2005). Following procedures recommended by Cammann et al., the three items were averaged to yield an overall job satisfaction score (α = .88). Higher scores reflect higher levels of job satisfaction. An example of an item included is "All in all, I am satisfied with my job." Higher scores on the scale indicate higher levels of job satisfaction.

Work/life balance. For this study, work/life balance was assessed using a six-item measure developed by Hill, Hawkins, Ferris, & Weitzman (2001). For all items, participants responded to statements on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) regarding the ability to balance demands of work and personal life. Cronbach's alpha for the measure was an acceptable .88. An example of an item from this measure is "When I take a vacation I am able to separate myself from work and enjoy myself". High scores are indicative of high levels of work/life balance.

Workaholism/worker types. Workaholism was assessed using a shortened version of the WorkBAT scale developed by Spence and Robbins (1992) based on its adequate reliability and validity (McMillian et. al, 2002). The choice was made to eliminate the involvement in work subscale based previous research which has found poor construct validity and weak convergence of the dimension with a parallel measure of work involvement, suggesting that the measure would be substantially improved by eliminating the Work Involvement subscale (McMillian et. al). As such, the measure consisted of two subscales comprised of three items each: Drive (α = .67) and Enjoyment (α = .63). Item scores were summed for each scale separately, with higher scores representing

greater levels of drive and enjoyment. Two worker types, true workaholics (higher than average drive and lower than average enjoyment) and non-workaholics (all others) were derived on the basis of either high or low scores on the scales, with standardized mean scores used to form high and low scoring groups (Spence & Robbins, 1992; Aziz & Zickar, 2006; Russo & Waters, 2006). Table 1 illustrates the frequency of the resulting workaholism classifications on the basis of drive and enjoyment dimensions.

Analyses

Prior to analyses, the data were checked for data entry errors, missing data by variable, missing data by participant and outliers. There was no indication that any participants should be dropped from subsequent analyses. All reverse coded items were recoded.

Table 1

Worker Types and Frequencies

Worker Type	N	Drive	Enjoyment
Workaholic	16	High	Low
Non-Workaholic[a]	69		
Enthusiastic Workaholic	35	High	High
Relaxed Worker	7	Low	High
Uninvolved Worker	27	Low	Low

Note: N=85

[a] Non-Workaholic includes enthusiastic workaholics, relaxed workers, and uninvolved workers

Results

Descriptive Statistics

Descriptive statistics were conducted for all variables used in this research. Means and standard deviations for each of the scales are located in Table 2. All scales with the exception of extent of telecommuting were measured using a 7 point response scale, with higher values indicating higher levels of the variable. The mean statistic for extent of telecommuting was 2.65, suggesting that on average, participants in this research telecommute between one and two days per week. Given that the workweek generally consists of five days, this number suggests a positively skewed non-normal distribution, with participants working from home less than half of the workweek. The scale mean for job satisfaction was 6.01, with a standard deviation of .90, suggesting that in general, the individuals in this sample experienced a high level of overall satisfaction with their jobs. The scale mean for work/life balance was 4.56, with a standard deviation of 1.30, suggesting that participants in this research had a slightly higher than average level of work/life balance, but responses to this scale were for the most part normally distributed.

Finally, with regard to the workaholic subscales, workaholism-drive and workaholism-enjoyment had mean ratings of 5.51 and 5.36 respectively. This suggests that on average, participants felt an internal pressure to work, but generally enjoy what they do. Taken together, this would lead to the expectation that the sample used in this research was comprised of a greater number of enthusiastic workaholics than the other

worker types, which is consistent with the worker profile distribution presented in Table 1.

Correlations

Extent of telecommuting. The number of days that an individual telecommutes was not found to significantly relate to job satisfaction, work/life balance, or either of the workaholism subscales.

Job satisfaction. Job satisfaction was found to relate positively to work/life balance ($r = .45$, $p < .01$), and to the enjoyment dimension of workaholism ($r = .38$, $p < .01$). These results suggest that higher levels of work/life balance are associated with higher levels of job satisfaction, and that higher levels of the enjoyment dimension of workaholism are associated with greater job satisfaction. Both of these relationships are consistent with expectations based on previous literature. Job satisfaction was also significantly related to worker type ($r = -.28$, $p < .05$), suggesting that non-workaholics tend to experience higher levels of job satisfaction than workaholics. Neither workaholism-drive ($r = .05, p > .05$), or the extent of telecommuting ($r = .01, p > .05$), were found to significantly relate to job satisfaction.

Work/life balance. Aside from the significant relationship between work/life balance and job satisfaction, of the remaining four variables, only workaholism-drive demonstrated a significant relationship with work/life balance ($r = -.33$, $p < .01$). The negative direction of this relationship indicates that greater levels of internal drive an individual feels to work are associated with lower levels of work/life balance.

Workaholism subscales. Aside from the relationships already mentioned, results indicated a significant positive relationship between the two subscales of workaholism, drive and enjoyment ($r = .56$, $p < .01$). The moderately high correlation between the two dimensions was to be expected, as they fall under the umbrella of the workaholism construct. However, the positive directional nature of the relationship was somewhat unexpected, as drive and enjoyment have been linked to negative and positive outcomes respectively in previous research (Buelens & Poelmans, 2004; Aziz & Zickar, 2006).

Table 2

Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5
1. Extent Telecommuting	2.65	2.05	--				
2. Job Satisfaction	6.01	0.90	.01	**.88**			
3. Work/Life Balance	4.56	1.30	-.15	.45 **	**.88**		
4. Workaholism - Drive	5.51	1.19	.17	.05	-.33 **	**.67**	
5. Workaholism - Enjoy	5.36	1.07	.08	.38 **	-.03	.56 **	**.63**
6. Worker Type[a]	0.18	0.39	-.08	-.28 *	-.05	.23 *	-.27 *

Note: N=85 . Scale reliabilities in bold on the diagonal.

[a] Worker Type: 0 = Non-Workaholic, 1 = Workaholic

* $p<.05$, ** $p<.01$

Hierarchical Regression Analyses

Hierarchical regression analyses was used to test the models posited in this research as it can be used to directly test curvilinear relationships, and because it can assess moderation (Golden & Veiga, 2006). Curvilinearity was tested by computing a squared telecommuting term and entering it into the equation after the main effects and linear terms were entered. If the addition of the quadratic term results in significant incremental variance after the linear effect has been accounted for, a curvilinear relationship is evident (Cohen, Cohen, West, & Aiken, 2003). Results of these analyses are reported in Table 3 (Hypotheses 1 and 2), Table 4 (Hypothesis 4 and 5), and Table 5 (Hypothesis 3).

Hierarchical Regression Predicting Job Satisfaction

Extent of telecommuting, work/life balance, and worker type were entered into step 1 of the analysis, with job satisfaction as the criterion variable. As a set, the three predictors accounted for a significant amount of variance in job satisfaction, [R= .52, R^2= .27, R^2_{adj}= .24; F (3,81)=9.80, p<.001]. In other words, these three variables account for approximately 27% of the total variance in job satisfaction. To gain a more detailed understanding of this relationship, the contribution of each of these predictors was assessed. Results indicated that while as a set the three contributed a significant amount of variance to job satisfaction, only work/life balance (β =.44, p < .001) and worker type (β = -.25, p = .01) made a substantial contribution. Examining the standardized coefficients for each of the two significant predictors revealed that higher levels of

work/life balance were associated with higher levels of job satisfaction, and individuals not characterized as workaholics were associated with higher levels of job satisfaction.

The linear interaction term between the extent of telecommuting and work/life balance was entered in step 2 of the regression analysis. Results indicate that this interaction made a significant contribution ($\beta = -.70, p = .05$) to the equation, accounting for an additional 3% of variance in job satisfaction [$R^2_{cha} = .03$; $F_{cha}(1,80) = 3.83, p = .05$]. In other words, work/life balance was found to moderate the linear relationship between the extent of telecommuting and job satisfaction.

Hypothesis 1 predicted that a curvilinear, inverted U-shaped relationship would exist between the extent of telecommuting, operationalized as the number of days an individual works from home a week, and job satisfaction. Curvilinearity was tested by computing a squared telecommuting term and entering it into step 3 of the analysis, after main effects and linear interaction terms were entered. As illustrated in Table 3, the squared term coefficient and the increase in model fit were significant [$\beta = -1.48, p = .01$; $R^2_{cha} = .05$; $F_{cha}(1,79) = 6.38, p = .01$]. Further, the negative beta weight for the quadratic term supports the notion of an inverted U shape (Golden & Veiga, 2005), as predicted. As such, Hypothesis 1 was supported.

To test for moderation of the curvilinear relationship, an interaction term was created composed of the quadratic extent of telecommuting term, and work/life balance, the proposed moderator. Following recommendations of Aiken and West (1991), this term was entered last into the analysis, after the direct effects and linear interaction terms. As previously mentioned, evidence of moderation is found when significant incremental

variance is explained by the quadratic-by-linear interaction terms beyond that explained by linear interaction terms (Golden & Veiga, 2005). Results indicate that the quadratic-by-linear interaction term did not account for significant incremental variance beyond that explained by the linear interaction terms [R^2_{cha}= .02; F_{cha} (1,78)=.02, p>.05].

Hypothesis 2 predicted that work/life balance would moderate the curvilinear relationship between the extent of telecommuting and job satisfaction. As seen in Table 3, the cross product term representing the interaction of work/life balance and job satisfaction was not significant (β= 2.76, p>.05). However, looking back to step 2, the linear interaction between extent of telecommuting and work/life balance was found to be significant (β= -.70, p=.05). In other words, work/life balance moderates the linear relationship, though not the quadratic relationship, between the extent of telecommuting and job satisfaction. To facilitate a better understanding of this relationship, the linear interaction was graphed following procedures prescribed by Aiken and West (1991), in which job satisfaction of individuals with high and low work/life balance was graphed (see Figure 1) across +1/-1 standard deviations of the extent of telecommuting. Although the explanatory power of the interaction was small, a pattern did emerge. More specifically, when extent of telecommuting was low, individuals with greater work/life balance experienced higher job satisfaction than those with lower work/life balance. However, as the extent of telecommuting increased, job satisfaction for those with higher levels of work/life balance began to decline, while increasing for individuals with less work/life balance. Hence, partial support was found for Hypothesis 2. In sum, illustrated

by Table 3, full support was found for Hypothesis 1, while partial support was found for Hypothesis 2.

Hypothesis 4 predicted that worker type and work/life balance would interact to account for significant variance in job satisfaction, and Hypothesis 5 predicted a significant three way interaction between worker type, work/life balance, and extent of telecommuting. Hierarchical multiple regression was the choice of analyses to test these hypotheses. In order to examine whether work/life balance and worker type interact to explain a significant amount of variance in job satisfaction (Hypothesis 4), the cross product of the two terms was entered into step 3 of the analysis, after accounting for main effects and linear moderator terms. Results indicate that with the inclusion of this interaction, a total of 39% of total variance in job satisfaction was accounted for [$R = .62$, $R^2 = .39$, $R^2_{adj} = .34$; $F(6,78) = 8.25$, $p < .001$]. An examination of the unique variance accounted for revealed a significant contribution made by the interaction [$R^2_{cha} = .08$; F_{cha} $(1, 78) = 9.92$, $p < .01$]. In other words, worker type and work/life balance interact to account for an additional 8% of variance in the curvilinear relationship between extent of telecommuting and job satisfaction. As such, Hypothesis 4 was supported.

In order to test Hypothesis 5, predicting a three way interaction between worker type, work/life balance and extent of telecommuting with job satisfaction, we followed procedures for testing three way interactions set forth by Aiken and West (1991). However, as illustrated in Table 4, neither the linear three way interaction term [$R^2_{cha} = .01$; F_{cha} $(1,77) = .83$, $p > .05$] nor the quadratic interaction term [$R^2_{cha} = .00$; F_{cha} $(1,75) = .20$, $p > .05$] were significant. Thus, Hypothesis 5 was not supported.

Table 3

Results of Hierarchical Multiple Regression Analyses Predicting Job Satisfaction (N = 85)

		Job Satisfaction		
Step	Predictor Variable	β	R^2	ΔR^2
1	Extent Telecommuting	.05		
	Work/Life Balance	.44***		
	Worker Type	-.25**		
			.27***	
2	Extent Telecommuting x Work/Life Balance	-.70*		
			.30***	.03*
3	Extent Telecommuting^2	-1.48**		
	(Hypothesis 1)		.35***	.05**
4	Extent Telecommuting^{2}xWork/Life Balance	2.76		
	(Hypothesis 2)		.37***	.02

Note. Worker Type: 0 = Non-workaholic, 1 = Workaholic

*$p \leq .05$, **$p \leq .01$, *** $p \leq .001$

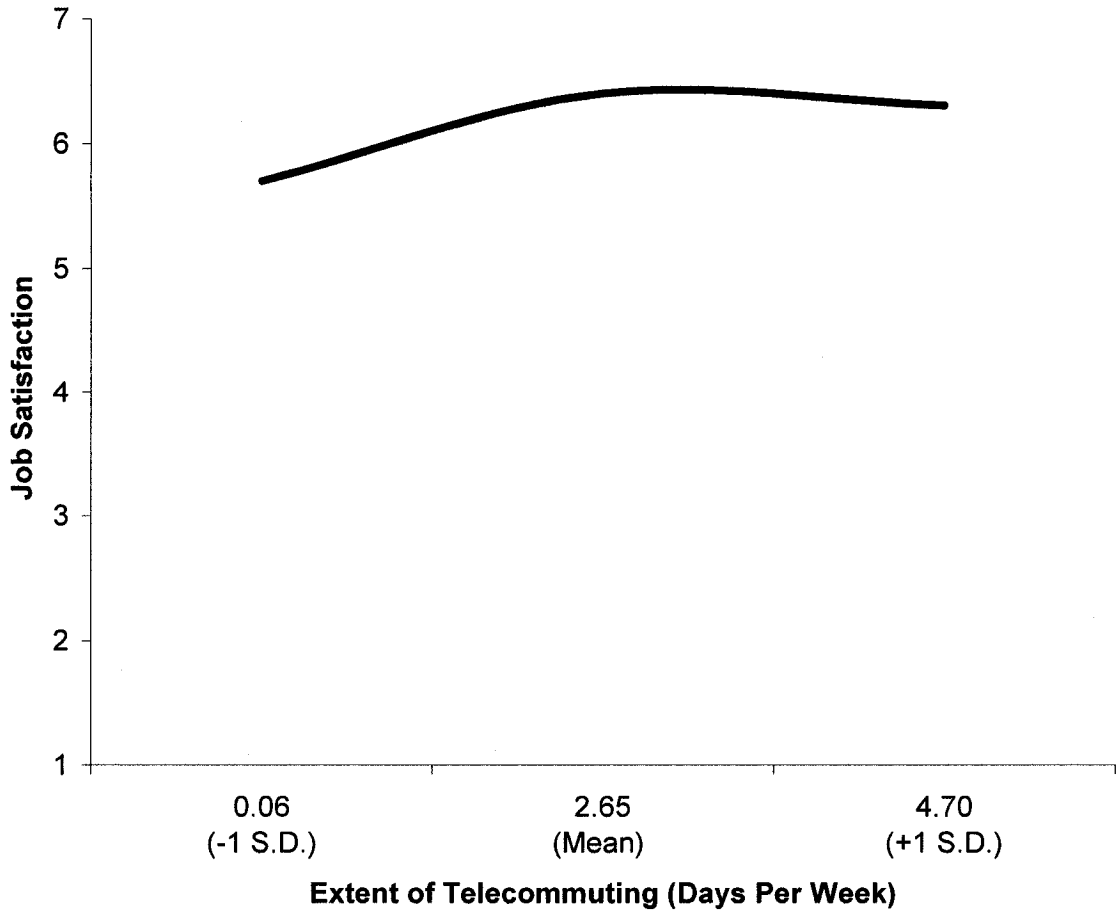

Figure 1. Extent of telecommuting and job satisfaction.

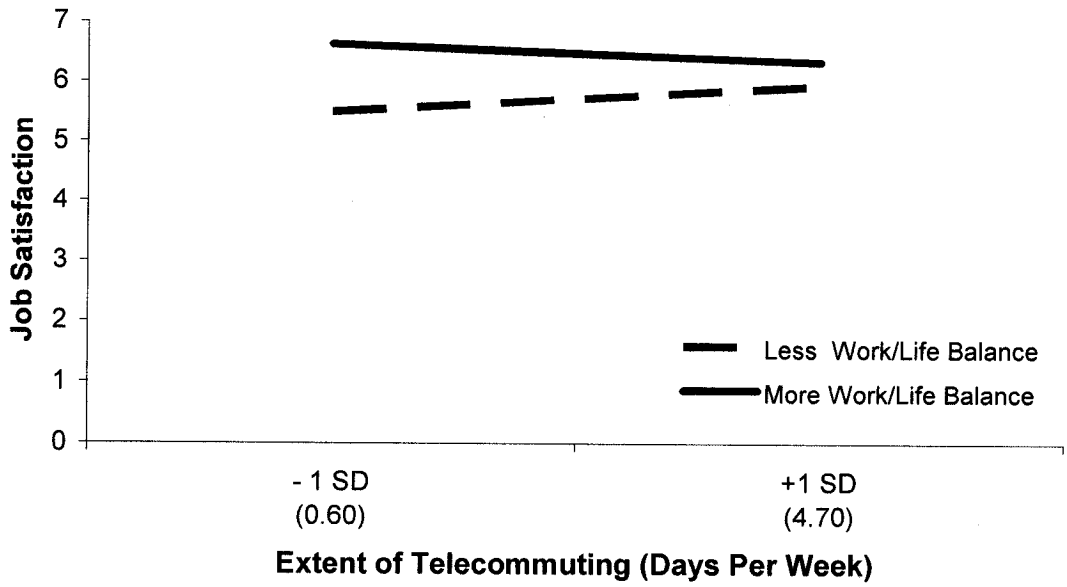

Figure 2. Moderating effect of work/life balance on extent of telecommuting and job satisfaction.

Table 4

Results of Hierarchical Multiple Regression Analyses Predicting Job Satisfaction (N = 85)

		Job Satisfaction		
Step	Predictor Variable	β	R^2	ΔR^2
1	Extent Telecommuting	.05		
	Work/Life Balance	.44***		
	Worker Type	-.25**		
			.27***	
2	Extent Telecommuting x Work/Life Balance	-.70*		
	Extent Telecommuting x Worker Type	.16		
			.31***	.09
3	Work/Life Balance x Worker Type	1.14**		
	(Hypothesis 4)		.38***	.08**
4	Work/Life Balance x Worker Type x Extent Telecommuting	.58	.40***	.01
5	Extent Telecommuting^2	-1.33*		
			.44***	.04*
6	Work/Life Balance x Worker Type x Extent Telecommuting^2 (Hypothesis 5)	-.42	.44***	.00

Note. Worker Type: 0=Non-workaholic, 1= Workaholic

*$p \leq .05$, **$p \leq .01$, *** $p \leq .001$

Hierarchical Regression Predicting Work/Life Balance

Hypothesis 3 predicted that worker type would moderate the relationship between the extent of telecommuting and work/life balance such that a pronounced drop would occur in work/life balance at extensive levels of telecommuting workaholics. Hierarchical regression analysis was used to test this model, as similar to Hypotheses 1, 2, and 4, the model proposes moderation. Neither the main effects nor the linear interaction term accounted for a significant amount of variance in work/life balance. Thus, as seen in Table 5, Hypothesis 3 was not supported.

In sum, Hypotheses 1 and 4 were fully supported, Hypothesis 2 was partially supported, and Hypotheses 3 and 5 were not supported.

Table 5

Results of Multiple Regression Analyses Predicting Work/Life Balance (N = 85)

		Work/Life Balance		
Step	Predictor Variable	β	R^2	ΔR^2
1	Extent Telecommuting	-.15		
	Worker Type	-.06		
			.02	
2	Extent Telecommuting x Worker Type	.20		
	(Hypothesis 3)		.04	.02

Note. Worker Type: 0 = Non-workaholic, 1 = Workaholic
*$p<.05$, **$p<.01$, *** $p<.001$

Discussion

In this study, we examine previously inconsistent findings specific to the realm of telecommuting, particularly in context of the relationship between the extent that an individual telecommutes and levels of job satisfaction. Our findings fail to support the linear contention that the more employees telecommute, the more satisfied they are (Pinsonneault & Boisvert, 2001), or that telecommuting leads to decreased job satisfaction (Cooper & Kurland, 2002). On the contrary, the findings of this study add to evidence of a curvilinear inverted U-shaped relationship between the extent of telecommuting and job satisfaction first posited by Golden and Veiga (2005). In addition, the current study adds to the existing literature on telecommuting by proposing and finding higher order relationships influencing the complex relationship. The results of hierarchical multiple regression analyses provide full support for Hypotheses 1 and 4, and partial support for Hypothesis 2, revealing significant relationships between the extent of telecommuting and job satisfaction, the moderating role of work/life balance, and the interaction between work/life balance and workaholism accounting for a significant amount of variance in job satisfaction.

Hypothesis 1 predicted the existence of a curvilinear inverted U-shaped relationship between the extent of telecommuting and job satisfaction. As shown in Figure 1, job satisfaction initially increases as the extent of telecommuting rises. However, at more extensive levels of telecommuting, job satisfaction begins to taper off and decrease slightly. This finding suggests that the impact of the extent of telecommuting on job satisfaction is more complex than many originally thought. In

addition, consistent with the findings of Golden and Veiga (2005), gains in job satisfaction at less extensive levels of telecommuting are substantially stronger than those at higher levels. In other words, at lower levels of telecommuting, the increase in job satisfaction is steep, and occurs rapidly. This increase continues up to a certain level of telecommuting, where job satisfaction plateaus and actually begins to decrease, and the decrease not as sharp as the initial increase. Essentially, this finding suggests that there may be a critical threshold in the number of days per week an individual can telecommute beyond which the benefits to job satisfaction cease to continue to accrue. In other words, where as the benefits afforded by telecommuting may initially increase job satisfaction, telecommuting alone should not be thought of as a full time solution to increase employee job satisfaction. Rather, where possible, offering telecommuting as a part-time flexible work arrangement would avoid replacing face-to-face interactions, while still affording the flexibility and freedom associated with telecommuting.

Although our results may not be representative of the telecommuting population at large, they suggest that this threshold occurs somewhere between 2. 65 and 3.68 days per week. This number appears slightly higher than the 15.1 hours per week threshold presented by Golden and Veiga (2005), which when using an 8 hour day average is just under 2 days. These differences may be attributable to characteristics of the sample itself or possibly to the differing measurements employed to operationalize the extent of telecommuting and thus warrants further exploration of the domain. However, the findings do consistently support the inverted U-shaped relationship, in addition to the existence of a critical threshold, after which additional benefits of telecommuting on job

satisfaction cease to continue to ensue. Future research should be done to further validate the existence of the U-shaped relationship, and to delve deeper into characteristics of the relationship to gain a more thorough understanding of the critical threshold, and variables that serve to influence the relationship.

Findings of the current study also suggest the job satisfaction of telecommuters needs to be understood in terms of higher order relationships, not merely in terms of the direct impact of the extent of telecommuting on job satisfaction. Work/life balance, the ability of individuals to successfully combine work with non-work responsibilities, activities, and aspirations (Hughes & Bozionelos, 2007) has consistently been associated with higher levels of job satisfaction across research to date. For telecommuters, the distinction between work and life can pose more of a challenge by nature of the work environment alone. Results of our analyses suggest that work/life balance moderates the linear relationship between extent of telecommuting and job satisfaction. As illustrated in Figure 2, although the explanatory power of the interaction was small, a pattern did become apparent. More specifically, at lower levels of telecommuting, individuals with greater work/life balance experienced higher job satisfaction than those with less work/life balance. However, as the extent of telecommuting increased, job satisfaction for those with higher levels of work/life balance began to decline, while it increased for individuals with less work/life balance. This finding suggests the possibility of variables outside the current study influencing the dynamics of the relationship that will be important to identify and examine in future research.

The interaction between work/life balance and worker type explained a significant amount in variance in job satisfaction, after accounting for main effects and the linear moderator terms in the relationship, offering support for Hypothesis 4. Specifically, the relationship between work/life balance and job satisfaction is stronger for workaholics than non-workaholics. No evidence of a three way interaction between work/life balance, worker type, and extent of telecommuting was found. Hence, Hypothesis 5 was not supported.

Lastly, contrary to expectations, worker type did not moderate the relationship between extent of telecommuting and work/life balance. In other words, there were no significant differences found in the strength or direction of the relationship between extent of telecommuting and work/life balance by worker type. Hence, Hypothesis 3 was not supported. Given the small overall sample size, the disproportionately small number of true workaholics in the sample, and the relatively small proportion of the week spent telecommuting characteristic of the sample, this finding may be an artifact of our sampling frame. Future research employing a larger sample could help shed insight into this possibility. However, it was also interesting to note that when subject to multivariate analysis, extent of telecommuting alone did not significantly impact work/life balance in either direction, consistent with the findings of Hill et al., 1998. It is possible that these findings resulted from examining overall work/life balance rather than a single dimension of work-family conflict, which supports research done suggesting that inconsistencies in previous studies may merely be a result of ignoring bidirectional nature of work – family conflict (Golden, Veiga, & Simsek, 2006). It will be important for

telecommuting research to continue to explore the impact of virtual work on work/life balance, work-family conflict, and family-work conflict as individual entities as we move towards a more comprehensive understanding of the ubiquitous work form.

In conclusion, this study provides support for a curvilinear, inverted U-shaped relationship between the extent of telecommuting and job satisfaction and offers some support for the notion of higher order relationships influencing this relationship.

Strengths and Limitations

A major strength of this study is that it provides further empirical support for the notion of the inverted curvilinear relationship between the extent that an individual telecommutes and job satisfaction, first suggested by Golden and Veiga (2005). More specifically, results suggest the existence of a critical threshold in the complex relationship in the amount that an individual can telecommute beyond which additional gains in job satisfaction are no longer accrued (Golden & Veiga, 2005). This finding is important as it veers away from the idea of a linear relationship between telecommuting and job satisfaction that has been posited and debated by much of previous research, and by encapsulating elements of both sides of the argument. By identifying higher order relationships influencing the relationship, this research provides a starting point for future research in understanding the complexities and nature of the relationship itself. Further research will need to be done in order to fully understand the variables influencing the relationship, and the current study will provide a solid foundation.

In addition, by operationalizing the extent of telecommuting as number of days per week rather than number of hours per week measure utilized by Golden and Veiga

(2005) and ending with similar results, this study provides strong convergent validity for the measures used and the overall findings.

An additional strength of the current study lies in its examination of work/life balance rather than focusing on work-family conflict. By addressing work/life balance, an all-encompassing notion, rather than inadvertently focusing on a single dimension as often the case when addressing work-family conflict, we contribute to the possibility of reconciliation of what have been garnered inconsistencies in previous telecommuting research, while contributing to a broader understanding of the domain. In doing so, we also open up avenues of future research that will benefit academics and professionals alike as we move toward a more thorough understanding of telecommuting and its application to the workplace.

While the current study will make a substantial contribution to the telecommuting literature, findings should also be considered with regard to certain limitations. First and foremost, while the initial sample consisted of a healthy 575 participants, of these, only 85 were telecommuters. This small sample, though representative of the participating organization as a whole, is less than preferred when running complex analyses such as those employed in the current study, as there are implications on statistical power. Statistical power is the probability of detecting an effect in a sample when a true effect indeed exists (Aiken & West, 1991). Moreover, the power of statistical tests for higher order terms, even in absence of measurement error is expected to be low (Aiken & West, 1991). This being said, it is possible that relationships do exist in some, if not all of the cases where our hypotheses were not supported. One example of this possibility would

be in the case of Hypothesis 3, where worker type did not moderate the relationship between extent of telecommuting and job satisfaction. In this case, only 16 of the participants met the criteria of a true workaholic, making it difficult to detect even moderate differences between the groups. It will be important for future research to test these relationships using a larger sample to better detect and more fully understand the relationships at hand.

On a similar note, the sample employed in this study, on average, scored relatively high on both the drive and enjoyment components of workaholism, ideally assessed using a normal distribution. As worker types were derived on the basis of either high or low scores on the scales, with standardized mean scores used to form high and low scoring groups (Spence & Robbins, 1992; Aziz & Zickar, 2006; Russo & Waters, 2006), the skewness of the distribution may have influenced final results. This is because groups were established relative to group norms, not the norms of the population at large.

Another limitation of the current study was the lack of control variables included in the regression analyses. Research exists suggesting that telecommuting longevity (Golden, 2006), gender (Siha & Monroe, 2006), and family variables, such as marital status and number of children (Tremblay, 2002), have implications on the experience of telecommuters. However, due to the small sample size and complexity of the analyses, we chose to omit such controls from the current study in order to maximize statistical power. Future research will benefit from inclusion of such variables, using a larger sample size, in order to gain the most comprehensive understanding of the telecommuting experience.

Some final limitations of the study were inherent to the research design itself. While the original study utilized a mix of archival data and self-report measures allowing for some control of common method variance in data collection (Campbell & Fiske, 1959), the subset used in the research at hand used only self-report data. However, since the majority of the measures used in the study were multi-item measures, common method variance is less of a concern (Spector, 1987). Regardless, future studies will benefit by using a multi-method approach in data collection. Finally, although the current study offers important insights into the telecommuting – job satisfaction relationship, because the research design evaluated cross-sectional data, it is not possible to make causal and/or directional inferences. In other words, results of this study do not allow us to infer that telecommuting improves or decreases job satisfaction, only that the extent that an individual telecommutes relates to the level of job satisfaction among telecommuting individuals. Longitudinal designs or the use of experimental manipulations will be beneficial for future research to understand the interplay of such complex associations.

Implications for Research and Practice

The results of the current study provide a number of valuable implications to current and future telecommuting programs, as well as to future research on this emerging form of work. First, the shape of the relationship between the extent of telecommuting and job satisfaction suggests that full-time telecommuting programs may not be the answer to increasing employee job satisfaction. Rather, our findings suggest that part-time telecommuting arrangements, where individuals are able to reap the

benefits afforded by telecommuting but still spend a portion of the workweek in an office setting may be more optimal. It is possible that in this situation, individuals are able to capitalize on the autonomy and flexibility associated with telecommuting, but still maintain the face-to-face interactions and separation of the work-life spheres afforded through working in an office environment. Future research will benefit from the inclusion of additional variables to identify and understand relationships influencing the job satisfaction of telecommuters, in order to optimize the telecommuting experience.

Another implication of this study relates to the interaction between worker type and work/life balance in predicting job satisfaction. While results failed to support the notion of a three way interaction with the extent of telecommuting as moderating job satisfaction, the interaction between worker type and work/life balance should not be ignored. More specifically, our finding suggesting that the relationship between work/life balance and job satisfaction is stronger for workaholics than non-workaholics opens up a new avenue for research and practice involving workaholism. As much of the existing literature suggests a negative relationship between workaholism and work/life balance, between workaholism and job satisfaction, and a positive association between work/life balance and job satisfaction, perhaps additional measures need to be taken to facilitate a stronger work/life balance for workaholics, and for the general employee population. As the drive component of workaholism is the primary contributor to decreased work/life balance, potential interventions would involve decreasing the addictive or compulsive aspects that comprise the internal drive to work felt by workaholics. As discussed by Burke (2000a), potential ideas would include paying

attention to performance and work habits of employees, and being cognizant of the warning signs of workaholism, not rewarding addictive behaviors, but rather recognizing employees who are productive but lead balanced lives, and mandating vacation time away from work. Employers should also make every attempt to minimize job insecurity, work overload, impeded career opportunities and lack of control within the organization. Behavioral modification, prioritization plans, and family involvement and counseling programs can also be helpful in changing workaholic behavior. Finally, the development of workplace values which promote balanced priorities and healthier life-styles will help minimize the pressure to work felt by workaholics and help improve work/life balance. For a more comprehensive discussion of avenues for intervention, see Burke, 2000a.

Another implication of the current study is the notion that telecommuting programs are not necessarily one size fits all. This is consistent with the concept that formal teleworking policies may be more likely to lead to positive outcomes for specific employee groups, and the need to differentiate between type of job and occupation when designing telecommuting programs (Kossek, Lautsch, & Eaton, 2006). When designing and implementing telecommuting programs, it will be important for organizations to understand and evaluate their employees in order to ensure the most appropriate fit. For example, in the present study, when extent of telecommuting was low, individuals with greater work/life balance experienced higher job satisfaction than those with lower work/life balance. However, as the extent of telecommuting increased, job satisfaction for those with higher levels of work/life balance began to decline, while it increased for individuals with less work/life balance. This finding in itself suggests the possibility of

additional factors, related to the employees existing home situation, personality, or characteristics of the job playing roles in determining job satisfaction. Research exists (Crandall & Gao, 2005), suggesting a "virtuous cycle" (p.33) of telecommuting, including four antecedents: traits and characteristics, job profile/technology, policy/support mechanisms, and culture and infrastructure, offering support to the notion that a number of factors must be considered when designing and implementing a successful telecommuting program. These are areas that will benefit from continued evaluation and exploration.

As research on telecommuting progresses, it will also be valuable to evaluate productivity, and to gain an understanding of how the variables previously mentioned influence productivity across different telecommuting scenarios. As our work and economy continue to globalize, it will also be important to delve into and understand how virtual work unfolds across cultures. In sum, future research will need to continue to evaluate the multitude of factors playing a role in telecommuting programs, and organizations will need to stay astute to such implications if such programs are to be successful.

In conclusion, through an assessment of the relationship between the extent of telecommuting and job satisfaction, and the evaluation of workaholism and work/life balance, this study adds to a growing body of literature on telecommuting, while opening up exciting avenues for future research on the youthful and increasingly popular work arrangement. In essence, this thesis makes a contribution to the understanding of America at work, in the present, and for the future.

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